PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Gilles Massey
Jean-Claude Dauguet

Serial No.: Unassigned

Filed: Concurrently Herewith

For: METHOD FOR DETERMINING THE SUITABILITY OF A TRANSPARENT MOLDED POLYMER ARTICLE FOR COLORING WITHOUT DEFECTS AND RESULTING ARTICLE

Group Art Unit: Unknown

Examiner: Unknown

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PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants respectfully submit this Preliminary Amendment in the above-referenced case.

Consideration of this case in view of the amendments made herein is respectfully requested.

AMENDMENT

In the Specification:

Please amend the specification as follows:

At page 1, line 4, please insert the following paragraph:

--This application is a continuation of PCT Application No. PCT/FR00/00842 filed 5 April 2000, which claims priority to French Application No. 99/04268 filed 6 April 1999.--

In the Claims:

Please cancel claims 1-19, without prejudice or disclaimer.

Please add new claims 20-41 as follows:

--20. (New) A method for determining suitability of transparent molded polymer articles to produce colored transparent molded articles comprising:

a) obtaining a set of transparent molded polymer articles, each comprising at least a first principal surface;

b) placing the first principal surface of each of the articles of the set in contact with a solution comprising a fluorescent material, for a sufficient time to allow penetration of the fluorescent material under the first principal surfaces of the articles;

c) irradiating the articles to activate fluorescence of the fluorescent material; and

d) selecting the articles in the set into a first subset composed of any articles that show a homogeneous fluorescence of the principal surface under irradiation and a second subset composed of any articles that show a non-homogeneous fluorescence of the principal surface under irradiation.

21. (New) The method of claim 20, further comprising treating selected articles to deactivate fluorescence.

22. (New) The method of claim 21, wherein treating consists of irradiating the selected articles with UV-C radiation.

23. (New) The method of claim 21, wherein treating consists of dipping the selected articles in a bath of a chemical agent which deactivates fluorescence.

24. (New) The method of claim 23, wherein the chemical deactivation agent is further defined as a benzene alkylsulfonate.

25. (New) The method of claim 20, wherein the fluorescent material penetrates under the first principal surface of the articles to a depth of 0.1 to 5 μm.

26. (New) The method of claim 25, wherein the fluorescent material penetrates under the first principal surface of the articles to a depth of 0.5 to 1.5 μm.

27. (New) The method of claim 20, wherein irradiating comprises irradiation with UV radiation.

28. (New) The method of claim 20, wherein the solution comprising fluorescent material is an aqueous solution at a concentration of 10 to 100 ppm.

29. (New) The method of claim 28, wherein the solution comprising fluorescent material is an aqueous solution at a concentration of around 20 ppm.

30. (New) The method of claim 20, wherein the solution comprising fluorescent material is at a temperature higher than the glass transition temperature of the polymer material of the articles.

31. (New) The method of claim 30, wherein the temperature of the solution of the fluorescent material is from 85 to 98°C.

32. (New) The method of claim 20, wherein the articles are further defined as comprised of a polymer material that has a polymerization shrinkage of at least 7%.

33. (New) The method of claim 32, wherein the articles are further defined as comprised of a polymer material that has a polymerization shrinkage of at least 10%.

34. (New) The method of claim 32, wherein the polymer material of the articles is obtained by polymerization of a polymerizable liquid composition comprising a diethylene glycol diallyl carbonate monomer.

35. (New) The method of claim 20, wherein the molded articles are further defined as having a positive optical strength.

36. (New) The method of claim 20, wherein the fluorescent material is selected from the derivatives of hydrazines and aliphatic amines.

37. (New) The method of claim 20, wherein the molded articles are further defined as ophthalmic lenses.

38. (New) A method for producing colored ophthalmic lenses from polymer material comprising:

a) obtaining a set of ophthalmic lenses made of substantially colorless polymer material, each comprising at least a first principal surface;

b) placing the first principal surface of each of the ophthalmic lenses of the set in contact with a solution comprising a fluorescent material, for a sufficient time to allow penetration of the fluorescent material under the first principal surfaces of the ophthalmic lenses;

c) irradiating the ophthalmic lenses to activate fluorescence of the fluorescent material;

d) selecting the ophthalmic lenses in the set into a first subset composed of any ophthalmic lenses that show a homogeneous fluorescence of the principal surface under irradiation and a second subset composed of any ophthalmic lenses that show a non-homogeneous fluorescence of the principal surface under irradiation; and

e) subjecting the ophthalmic lenses of the first subset to a coloring treatment.

39. (New) The method of claim 38, further comprising, after selecting the ophthalmic lenses and before the coloring treatment, treating selected articles to deactivate fluorescence.

40. (New) A transparent polymer article comprising, under at least a first principal surface, a thin impregnated layer of a deactivated fluorescent material.

41. (New) The article of claim 40, further defined as an ophthalmic lens.--

REMARKS

The specification has been amended to recite the priority data, to cancel claims 1-19 of the PCT application, and to add new claims 20-41. Support for the new claims is found in the specification and claims as originally filed. The filing fee has been calculated after amendment of the claims by the preliminary amendment. For the convenience of the Examiner, a clean set of the pending claims is attached hereto as Appendix A.

Should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required, the Commissioner is hereby authorized to deduct said fees from Fulbright & Jaworski Deposit Account No. 50-1212/08001999/ESSR:053US.

Respectfully submitted,

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APPENDIX A
Pending Claims

20. A method for determining suitability of transparent molded polymer articles to produce colored transparent molded articles comprising:

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c) irradiating the articles to activate fluorescence of the fluorescent material; and

d) selecting the articles in the set into a first subset composed of any articles that show a homogeneous fluorescence of the principal surface under irradiation and a second subset composed of any articles that show a non-homogeneous fluorescence of the principal surface under irradiation.

21. The method of claim 20, further comprising treating selected articles to deactivate fluorescence.

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23. The method of claim 21, wherein treating consists of dipping the selected articles in a bath of a chemical agent which deactivates fluorescence.

24. The method of claim 23, wherein the chemical deactivation agent is further defined as a benzene alkylsulfonate.

25. The method of claim 20, wherein the fluorescent material penetrates under the first principal surface of the articles to a depth of 0.1 to 5 μm.

26. The method of claim 25, wherein the fluorescent material penetrates under the first principal surface of the articles to a depth of 0.5 to 1.5 μm.

27. The method of claim 20, wherein irradiating comprises irradiation with UV radiation.

28. The method of claim 20, wherein the solution comprising fluorescent material is an aqueous solution at a concentration of 10 to 100 ppm.

29. The method of claim 28, wherein the solution comprising fluorescent material is an aqueous solution at a concentration of around 20 ppm.

30. The method of claim 20, wherein the solution comprising fluorescent material is at a temperature higher than the glass transition temperature of the polymer material of the articles.

31. The method of claim 30, wherein the temperature of the solution of the fluorescent material is from 85 to 98°C.

32. The method of claim 20, wherein the articles are further defined as comprised of a polymer material that has a polymerization shrinkage of at least 7%.

33. The method of claim 32, wherein the articles are further defined as comprised of a polymer material that has a polymerization shrinkage of at least 10%.

34. The method of claim 32, wherein the polymer material of the articles is obtained by polymerization of a polymerizable liquid composition comprising a diethylene glycol diallyl carbonate monomer.

35. The method of claim 20, wherein the molded articles are further defined as having a positive optical strength.

36. The method of claim 20, wherein the fluorescent material is selected from the derivatives of hydrazines and aliphatic amines.

37. The method of claim 20, wherein the molded articles are further defined as ophthalmic lenses.

38. A method for producing colored ophthalmic lenses from polymer material comprising:

a) obtaining a set of ophthalmic lenses made of substantially colorless polymer material, each comprising at least a first principal surface;

b) placing the first principal surface of each of the ophthalmic lenses of the set in contact with a solution comprising a fluorescent material, for a sufficient time to allow penetration of the fluorescent material under the first principal surfaces of the ophthalmic lenses;

c) irradiating the ophthalmic lenses to activate fluorescence of the fluorescent material;

d) selecting the ophthalmic lenses in the set into a first subset composed of any ophthalmic lenses that show a homogeneous fluorescence of the principal surface under irradiation and a second subset composed of any ophthalmic lenses that show a non-homogeneous fluorescence of the principal surface under irradiation; and

e) subjecting the ophthalmic lenses of the first subset to a coloring treatment.

39. The method of claim 38, further comprising, after selecting the ophthalmic lenses and before the coloring treatment, treating selected articles to deactivate fluorescence.

40. A transparent polymer article comprising, under at least a first principal surface, a thin impregnated layer of a deactivated fluorescent material.

41. The article of claim 40, further defined as an ophthalmic lens.